

The Claims:

1. (currently amended) An agricultural soil substrate treating solution for imparting hydrophobicity to a substrate comprising an aqueous mixture of a C1 to C4 alkyl siliconate compound and a silicate compound, with the compounds being present at a molar ratio of silicate compound to siliconate compound of 0.5/1 to 10/1 and in combination in amount effective to increase hydrophobicity of the substrate soil after the solution is applied thereto due to the formation of silicic acid or silica gel therein in order to reduce water evaporation from the treated soil.

2. (currently amended) The solution of claim 1 wherein the siliconate compound is an alkali metal alkyl siliconate, and the silicate compound is an alkali metal silicate, with the silicate and siliconate compounds being present in a the molar ratio of is about 0.5:1 to 10:1 1:1 to 5:1.

3. (currently amended) The solution of claim 1 wherein the siliconate compound is an alkali metal methyl siliconate, and the silicate compound is an sodium or potassium hydrosoluble silicate, with the silicate and the siliconate compounds being present in a molar ratio of is about 1:1 to 5:1.

4. (currently amended) The solution of claim 1 wherein the siliconate compound is a sodium or potassium methyl siliconate, and the silicate compound is an sodium or potassium ortho or meta-silicate, with the silicate and the siliconate compounds being present in a molar ratio of is about 2:1 to 3:1.

5. (original) The solution of claim 1 wherein the siliconate compound is present in an amount of about 0.1 and 1% by weight and the silicate compound is present in an amount of about 0.01 and 5% by weight.

6. (currently amended) The solution of claim 1 which further comprises a coloring [principle] agent, an agrochemical principle or both.

7. through 16. (cancelled)

17. (new) The solution of claim 6 which contains both a coloring agent and an agrochemical principle.

18. (new) The solution of claim 1 wherein, after being applied to the soil, the silicate compound is present in an amount of between about 2 and 60 Kg per hectare, and the silicate compound is present in the treated substrate in an amount of between about 3 and 150 Kg per hectare.

19. (new) The solution of claim 18 wherein the agricultural soil includes one or more of sand, gravel, tree bark, sawdust, compost, earth, or other solid porous materials, and the amount of water needed for application of the solution is reduced by a factor of two compared to that needed for the application of a silicate by itself for the same reduction of water evaporation from the treated soil.

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20. (new) An agricultural soil treating solution consisting essentially of an agrochemical principle and an aqueous mixture of a C1 to C4 alkyl silicate compound and a silicate compound, with the compounds being present at a molar ratio of silicate compound to silicate compound of 0.5/1 to 10/1 and in combination in amount effective to increase hydrophobicity of the soil after the solution is applied thereto due to the formation of silicic acid or silica gel therein in order to reduce water evaporation from the treated soil.

21. (new) The solution of claim 20 wherein the silicate compound is an alkali metal alkyl silicate, the silicate compound is an alkali metal silicate, and the molar ratio is about 1:1 to 5:1.

22. (new) The solution of claim 20 wherein the silicate compound is an alkali metal methyl silicate, the silicate compound is a sodium or potassium hydrosoluble silicate, and the molar ratio is about 1:1 to 5:1.

23. (new) The solution of claim 20 wherein the silicate compound is a sodium or potassium methyl silicate, the silicate compound is a sodium or potassium ortho or meta-silicate, and the molar ratio is about 2:1 to 3:1.

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24. (new) The solution of claim 20 wherein the siliconate compound is present in an amount of about 0.1 and 1% by weight and the silicate compound is present in an amount of about 0.01 and 5% by weight.

25. (new) The solution of claim 20 which also contains a coloring agent.

26. (new) The solution of claim 20 wherein, after being applied to the soil, the siliconate compound is present in an amount of between about 2 and 60 Kg per hectare, and the silicate compound is present in the treated substrate in an amount of between about 3 and 150 Kg per hectare.

27. (new) The solution of claim 20 wherein the agricultural soil includes one or more of sand, gravel, tree bark, sawdust, compost, earth, or other solid porous materials, and the amount of water needed for application of the solution is reduced by a factor of two compared to that needed for the application of a siliconate by itself for the same reduction of water evaporation from the treated soil..

28. (new) An agricultural soil treating solution consisting of an agrochemical principle and an aqueous mixture of a C1 to C4 alkyl siliconate compound and a silicate compound, with the compounds being present at a molar ratio of silicate compound to siliconate compound of 0.5/1 to 10/1 and in combination in amount effective to increase hydrophobicity of the soil after the solution is applied thereto due to the formation of silicic acid or silica gel therein in order to reduce water evaporation from the treated soil.

29. (new) The solution of claim 1 wherein the siliconate compound is an alkali metal methyl siliconate, the silicate compound is a sodium or potassium hydrosoluble silicate, and the molar ratio is about 1:1 to 5:1.

30. (new) The solution of claim 1 wherein the siliconate compound is a sodium or potassium methyl siliconate, the silicate compound is a sodium or potassium ortho or meta-silicate, and the molar ratio is about 2:1 to 3:1.